



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,544	08/19/2003	Chao-Yi Yuh	B429-059	4273
26278	7590	11/13/2006	EXAMINER	
COWAN LIEBOWITZ & LATMAN, P.C. JOHN J TORRENTE 1133 AVENUE OF THE AMERICAS NEW YORK, NY 10036			WALKER, KEITH D	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/643,544	YUH ET AL.	
	Examiner	Art Unit	
	Keith Walker	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 September 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 18-22,24-31 and 33-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 18-22,24-31 and 33-37 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/1/06 has been entered.

Claims 1-17, 23 & 32 are cancelled and Claims 18-22, 24-31 & 33-37 are pending examination and are rejected for the reasons below.

Claim Objection

Claim 18 is objected to because of the following informalities: Regarding claim 18, the limitation, "sections are arranged in a plurality of rows which are spaced along the width of said planer body member and each of which extends along the length of said planar body member..." is unclear. The section underlined is grammatically awkward and is unclear to what "each" part it refers. The limitation is being interpreted to mean the sections are arranged in plurality of rows that are spaced along the width and length of the planer body.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 18-22, 24-29, 31 & 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4,609,595 (Nickols) in view of Japanese Publication 05-335024 (Isobe).

Nickols teaches a fuel cell assembly having a wet seal area defined by the sealing flanges, which border the active fuel cell area. Folding over the edges of the plate structure forms the sealing flanges. A metal current collector (12) abuts the active area, which comprises the electrode assembly, and extends into the wet seal area (Figs. 1 & 2; 4:10-55). Compliant members made of spring sheets are located in the wet seal area and the compressibility of the spring sheets accommodates tolerances in the thickness of the associated electrode assembly. Similar to the instant application, as the electrodes shrink and creep the spring sheets adjust the compression of the sealing flange (7:10-25).

Nickols does not teach the use of a cantilevered spring for the wet seal area.

Isobe teaches a sealing plate having sections cut out of the planer body member forming cantilevered springs. The spring sealing plate is located in the wet seal area (Figs. 2-16; Abstract; [0012-0017, 0023]). The springs are made from stainless steel and the cantilever tab, when fully compressed, will lay in the plane of the plate (Figs. 6-8; [0029-0031]). As shown in figures 20 & 21, the rows of similar shaped tabs are offset

from each other by rows of oppositely shaped tabs. Regarding claims 27 & 28, the tabs in the Isobe figures certainly point to the angle being within the range of 2 – 50 degrees. It is considered to be obvious to one skilled in the art at the time the invention was made to fabricate a spring within the instant range for the purpose of manufacturing consistency. If the angle is too large, then the spring could be bent backwards or fold on itself as the fuel cell is assembled. If the angle is too small, then the mere functionality as a spring is lost. The spring height and strength are adjusted as needed for the application ([0044]). As for the length of the sections, it is held that a modification of size in a component is an obvious matter of design choice. A shorter length sustains more force before full compression, while a longer length requires less force but has a larger range of motion. A change in size is generally recognized as being within the level of ordinary skill in the art (*In re Rose*, 105 USPQ 237). No apparent criticality is given to the instant ranges. As any of the springs are compressed the angle between the tongue and the planer body will be reduced. The use of cantilevered springs eliminates the need for high accuracy fabrication and absorbs the dimensional error better (Abstract).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the spring sheets of Nickols with the cantilevered springs of Isobe to improve the sealing by using a spring that absorbs the dimensional errors better and reduces costs by reducing the need for high accuracy fabrication.

2. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4,609,595 (Nickols) in view of Japanese Publication 05-335024 (Isobe) as applied to claim 26 above and further in view of US Patent 4,689,280 (Gionfriddo) as evidenced by Electronic Space Products International (ESPI).

The teachings of Nickols and Isobe as discussed above are incorporated herein.

Nickols and Isobe teach using stainless steel as the material for the springs but are silent to the exact composition of the super alloy.

Gionfriddo teaches using metal plates made from stainless steel or a super alloy such as Inconel (4:10-20). While the exact type of Inconel is not mentioned, it would be obvious to one skilled in the art at the time of the invention to choose an Inconel type metal such as Inconel 718, which meets the claimed composition, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice (MPEP 2144.07), based on the properties offered by the metal. Such properties include corrosion resistance and high strength, as evidenced by ESPI.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the spring material of Nickols with the Inconel material of Gionfriddo to improve the spring's material properties, including corrosion resistance and high strength.

Response to Arguments

Applicant's arguments with respect to claims 18-22, 24-31 & 33-37 have been considered but are moot in view of the new ground(s) of rejection based on the amendments.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Walker whose telephone number is 571-272-3458. The examiner can normally be reached on Mon. - Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Trainer, Susy Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

K. Walker

Susy Tsang Foster
SUSY TSANG-FOSTER
PRIMARY EXAMINER